

# **LADDER SAFETY**

Each year in the United States, accidents involving ladders cause an estimated 300 deaths and 130,000 injuries requiring emergency medical attention. Ladder accidents usually are caused by improper selection, care or use, not by manufacturing defects. Some of the more common hazards involving ladders, such as instability, electrical shock, and falls, can be predicted and prevented. Prevention requires proper planning, correct ladder selection, good work procedures, and adequate ladder maintenance.

Taking proper precautions with ladders begins with choosing the ladder. Consider the type of work the ladder will be used for, the weight the ladder must carry, and the condition of the ladder. Most ladders sold for household use are Type III light-duty ladders. These are rated for a maximum load of 200 pounds (user plus materials). If the ladder needs to carry more weight than this, select a Type II medium-duty ladder (225 pounds) or a Type I heavy-duty ladder (250 pounds). Most ladders will be labeled with their duty rating. Buy a ladder long enough for any use you may have for it.

When purchasing a new ladder, there are certain defects and features that are potentially dangerous. On metal ladders, check for sharp edges, dents and bent steps, defective rungs or rails. Wooden ladders should be free of splits, cracks, chips and all but small, tight knots. No ladder should have loose rungs or steps. Steps on wooden stepladders should be reinforced with metal rods or angle braces securely attached to the step and side rail. The bottom step of all stepladders should have metal angle braces.

The stability of an individual stepladder can be checked by standing on the first step from the bottom and twisting the ladder. If it feels unsteady, choose another ladder.

All metal ladders should have slip-resistant rubber or plastic feet. Metal stepladders should have slip-resistant steps. Some wooden stepladders also have this desirable feature. Make sure the hooks and locks on extension ladders are in good condition. Replace worn or frayed ropes on extension ladders at once.

Fiberglass ladders should have a surface coat of lacquer maintained. If it is scratched beyond normal wear, it should be lightly sanded before applying a coat of lacquer.

No matter how safe the ladder is, if it is placed in a dangerous location or set up improperly an accident can happen. If you must set the ladder in a traffic area, use a barricade or guard to prevent collisions. Lock or block any nearby door that opens toward you. The area around the base should be kept uncluttered, and the ladder should be set on a solid, level surface. To raise a ladder, brace the lower end against a wall and then grasp the top rung with both hands. Raise the top end and walk underneath the

ladder, moving down the rungs until the ladder is vertical. When using an extension ladder, raise it to the desired height, being sure the locks engage properly on both sides of the ladder. To position the ladder properly, the base of the ladder should be one foot away from the wall or vertical surface for every four feet of height to the point of support. Large flat wooden boards placed under the ladder can level a ladder on uneven ground or give a ladder better footing on soft ground. If possible, secure the ladder; one way to do this is to have someone hold the bottom of the ladder.

When climbing or descending a ladder, face the ladder and use both hands. Approach the ladder from the center, not from the side. Tools should be carried in the pockets, in a bag attached to a belt, or raised and lowered by rope. Be sure that the soles of your shoes are clean and dry. Work facing the ladder, holding on with one hand. If it is ever necessary to work with both hands, hook one leg over the rung. Do not lean too far to the side while working. A good general rule is to keep your body centered between the rails of the ladder.

To keep a ladder in good condition, proper storage and maintenance is a necessity. Ladders should be stored in a sheltered area. Wooden ladders should be protected from moisture, insect damage and excessive heat. A wooden ladder used outdoors should be shellacked, varnished or given two coats of linseed oil as a protective coating. Never paint a wooden ladder; the paint can hide defects. Straight and extension ladders should be stored horizontally on racks or hooks with support points at the top, middle, and bottom of the ladder to prevent sagging and warping. Inspect a ladder before each use for wear and damage. This is particularly important after a long period of storage or after a ladder has been dropped. Have repair work done only by a competent repair shop. If there is major damage, discard the ladder. Do not attempt to straighten a bent metal ladder. Never use a damaged ladder. Periodically tighten the reinforcing rods under the steps of a stepladder, the spreader hinges and other hardware.

### **LADDER SAFETY HAZARD PREVENTION TIPS**

- Do not hand-carry loads on a ladder
- Do not try reaching so far that you lose your balance; move the ladder
- Non-skid feet or spurs may prevent a ladder from slipping on a hard, smooth surface
- Do not stand on the ladder's top three rungs
- Do not use a ladder with a damaged side rail which may cause one side of a ladder to give way
- The base should be spaced 1 foot away for every 4 feet it reaches up
- Ladders used to reach a walking surface or roof must extend at least 3 feet beyond
- Extension ladders need both locks holding to prevent overloading a rail
- Step ladders should be securely spread open; never use a folding step ladder in an unfolded position
- Electrical shock can occur with metal or wet wooden ladders; not only is the shock itself dangerous, but it can cause falls resulting in injury
- Aluminum ladders are very corrosion-resistant to the elements, but exposing them to fertilizer or other caustic substances can cause damage

- Do not drop, toss or throw a ladder
- Do not use a ladder in a strong wind
- Before positioning the ladder, check for insect or bird nests under the eaves; the top of a ladder is no place to discover a wasp nest
- In case of sudden dizziness or a panicky feeling, bow your head, drape both arms over the rung in front of you, close your eyes, and wait until the feeling passes
- Do not use a ladder as a scaffold or for any purpose except what was intended
- Use only double-insulated or properly grounded electrical tools on a metal ladder
- Use only a dry wooden or non-conductive fiberglass ladder when working around electrical wires or equipment
- Erect a stepladder only on a flat level surface; do not place it on a table or any similar platform for added height
- Do not use a stepladder as a straight ladder
- Do not step on the top platform or top step of a step ladder
- Do not step on the bucket shelf or attempt to climb or stand on the rear section support of a stepladder
- Do not leave a raised ladder unattended
- When one man is carrying a ladder by hand, the front of the ladder should be kept high enough to clear a person's head, especially around corners, in aisles and through doorways